

Notice of Allowability

Application No.

10/765,393

Examiner

Cheung Lee

Applicant(s)

CAMPBELL, KRISTY A.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the RCE filed on 7/28/06.
2. ☒ The allowed claim(s) is/are 61-82,84-88,99-109,111,112,114,116-119 and 149.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20060829.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Notice to Applicant

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 28, 2006 has been entered.

Response to Amendment

2. In view of applicants amendments and arguments filed on June 30, 2006, the rejections of claims 61-82, 84-89, 91-109, 111-115 and 144-148 under 35 U.S.C. 102(e) or 103(a), as stated in the Office Action mailed on March 31, 2006, have been withdrawn.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Ms. Elizabeth Parsons on August 30, 2006.

5. The application has been amended as follows:

- In claim 100, add --first-- before “chalcogenide”.
- In claim 101, add --first-- before “chalcogenide”.
- In claim 102, add --first-- before “chalcogenide”.
- In claim 103, replace “at least one” with --first--.
- In claim 104, replace “at least one” with --first--.
- In claim 105, add --first-- before “chalcogenide”.
- Cancel claim 113.
- In claim 114, replace “113” with --99--.
- In claim 116, line 13, add --first-- before “chalcogenide”.
- In claim 116, line 14, add --first-- before “chalcogenide”.
- Undo cancellation of claim 117. Replace “Canceled” with --Original--.

Reason for Allowance

6. Claims 61-82, 84-88, 99-109, 111-112, 114, 116-119 and 149 are allowed.

The following is an examiner’s statement of reasons for allowance: claim 61 recites forming a first metal-containing layer adjacent said resistance variable material; forming a metal layer in contact with the first metal-containing layer; forming a second electrode in contact with metal layer. Claim 99 recites forming a second metal-containing layer over the first chalcogenide glass layer; electrically coupling first and second electrodes to said first and second chalcogenide glass layers, wherein the second electrode is formed in contact with said second metal-containing layer. Claim

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116 recites forming a second metal-containing layer over the second glass layer, wherein said second metal-containing layer is from about 100 Å to about 500 Å thick; applying a conditioning pulse to the memory element to bond regions of metal and glass within said first chalcogenide glass layer, said bonded regions forming at least one conducting channel within said first chalcogenide glass layer. These features in combination with the other elements of the claims are neither disclosed nor suggested by the prior art of record.

Claims 62-82, 84-88, 100-109, 111-112, 114, 117-119 and 149 depend from claim 1, so they are allowed for the same reason.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheung Lee whose telephone number is 571-272-5977. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cheung Lee

August 30, 2006


MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER